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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/731,116	12/06/2000	Shoichi Kyoya	9281.3846	9201

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EXAMINER

HARRINGTON, ALICIA M

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 04/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/731,116

Applicant(s)

KYOYA, SHOICHI

Examiner

Alicia M Harrington

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 December 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 06 December 2000 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Information Disclosure Statement*

The Examiner has considered the information disclosure statement filed on 12/6/00.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama et al (US 6,163,409) in view of Brazas, Jr. et al. (US 5,696,749).

Regarding claims 1, 5 and 6, Uchiyama discloses an optical disk apparatus comprising: A light emitting element part having plural light sources that emit laser beams (11 and 21; see figure 6a; col. 10, lines 20-25) of which the wavelengths are different; a light receiving member/element (17 or 27); a beam splitter that admits laser beams (13-2), delivers the laser beam toward optical disks, and guides the return beam from the optical disks toward the light receiving element, wherein:

The beam splitter (13-2; col. 10, lines 25-60) is provided with a wavelength-separating layer (DM; col. 10, lines 40-50),

The wavelength separating layer is comprised of two interface (501 and 502) where a mirror medium is placed between the interface, and

The beam splitter reflects or permeates the laser beam at or through the interface delivers the laser beams out of the splitter, and permeates the return beam through the wavelength separating layer to guide them toward the light receiving members (see col. 10, lines 32-60).

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However, Uchiyima fails to specifically disclose a light emitting part where the optical axis are mutually parallel, brings optical axis after reflection in coincidence, and a medium having a specific refractive index, as claimed. Although, it would have been obvious to one of ordinary skill in the art, as taught Brazas, Jr.

In the same field endeavor, Brazas discloses an optical dual wavelength recording system where the two light emitting parts each having a different wavelength, and have a mutual parallel optical axis (30/32; see figure 9-11) which impinge upon a beam splitter (34; 34a) with a wavelength separating layer (grating layer) comprised of two interfaces/plates (see figure 11; 42a and 42) with a medium (34) having a specific refractive index (col. 6, lines 50-60 and col. 7, lines 5-13). Further, the return beams are coincident upon a detector (68). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to locate lights near to another to help reduce degradation of the quality of the optical beam reaching the detector, as taught by Brazas, Jr. And further increases the density of data recorded on the disk surface.

Regarding claim 2, Uchiyama, as discussed above in claim 1, discloses a two-wavelength light emitting parts and a wavelength-separating layer. Brazas further discloses a wavelength separating layer with two interfaces and each having a first and second wavelength separation filter (diffraction grating; see figure 11; 42 and 42a) which permeates the first and second by specific rates (CD and DVD), as claimed (col. 7, lines 5-20). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Uchiyama, as taught by Brazas, since Brazas system help reduce degradation of the quality of the optical beam reaching the detector.

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Regarding claim 3, Uchiyama fails to specifically disclose the reflectivity and permeation efficiencies. Brazas further discloses the beam splitter may be designed to provide a desired splitting and transition characteristic (see col. 5, lines 19-42). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the claimed reflectance and permeation percentages, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Regarding claim 4, Uchiyama discloses a beam splitter with a mirrored layer for permeation or reflection of the two different wavelengths of light. Brazas discloses the beam splitter may further include optical coatings that provide a desired splitting characteristic and efficiency of the light permeated or reflected (col. 5, lines 20-40). And since it is notoriously well known in the art, that polarization films used with beam splitters provide an efficient light beam, the Examiner takes official notice to this fact; it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the first and second interfaces with polarization separating films because it also helps to provide an efficient light beam impinging upon disc and/or detectors.

Regarding claim 7, Uchiyama discloses an embodiment where an element (12 or 22) for diffracting light is placed between the light emitting member and beam splitter (col. 7, lines 21-25).

Regarding claim 8, Uchiyama discloses where the light emitting member and beam splitter each are fastened in an optical system separately and the beam splitter is disposed in such a manner that the incident angles of the laser beam on the beam splitter interface are virtually 45

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degrees (see col. 11, lines 10-14). Although, Uchiyama teaches the prism interfaces are parallel with a mirrored surface between them. However, Uchiyama fail to specifically disclose the light-emitting member is arranged such that the light sources are parallel with a direction along the surfaces of the optical disk.

In the same field endeavor, Brazas discloses an optical dual wavelength recording system where the two light emitting parts each having a different wavelength, and have a mutual parallel optical axis (30/32; see figure 9-11) which impinge upon a beam splitter. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Uchiyama, as taught by Brazas, since Brazas system help reduce degradation of the quality of the optical beam reaching the detector.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shih et al (US 6,188,132) discloses a two-wavelength semiconductor laser diode package;

Hoshino et al (US 5,293,372) discloses an apparatus for optically recording and reproducing information; and

Chao et al (US 6,370,104) discloses a DVD reading-writing pickup head employing multiple wavelengths.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M Harrington whose telephone number is 703 308 9295. The examiner can normally be reached on Monday - Thursday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 703 308 4883. The fax phone numbers for the organization where this application or proceeding is assigned are 703 308 7724 for regular communications and 703 308 7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

AMH

April 16, 2002

Alicia M Harrington  
Examiner  
Art Unit 2873

Georgia Epps  
Supervisory Patent Examiner  
Technology Center 2800